Remarks

Claims 1-19 are pending, Claims 1-19 are rejected. Claims 6 and 16 have been amended

to make the claims definite.

Reconsideration of the rejections is requested based on the following remarks.

The Rejection Of Claims 6 and 16 Under U.S.C.§112

Claims 6 and 16 have been amended to reflect that the crosslinked fibers in Claim 1 and

Claim11 have been refined.

The Rejection Of Claims 1,9 And 10 Are Rejected Under §102 (b)

Claims 1, 9 and 10 are rejected under 35U.S.C.§102(b) as being anticipated by Shaw et al., US Patent No. 3,819,470 ('470 patent). Withdrawal of this rejection is based on the following remarks.

The Shaw reference describes a method for making a sheet of cellulosic fibers which contains unrefined crosslinked fibers. In the '470 reference a substantive polymeric compound such as water soluble thermosetting cationic resin such as urea formaldehyde is added to the pulp slurry in an amount equal to from about 0.5 percent to about 6 percent of the bone dry weight of the bone dry weights of the fibers, column 3, lines 15-31. To assist in the production of individual modified fibers with a minimum expenditure of energy during the refiberiztion step, it also preferred to add a surface active agent as part of the chemical treatment. These compounds which are known in the paper-making art to interfere with natural fiber-to-fiber bonding may be added to the pulp slurry before, after, or simultaneously with the addition of the polymeric compound, column 3, lines 51-line 57. Subsequently the slurry is agitated, dewatered, and concentrated by pressing or centrifugal extraction, preferably to remove water until the fibers are at a consistency of approximately 40 percent solids. The fibers are then dried to remove the water causing the polymeric compound to react with itself and with the fibers, column 4, lines 18-32. The treated, dried fibers are reslurried in water and the individual fibers are separated by treatment with high shear mechanical equipment such as a Waring Blender or Cowles Dissolver for small scale or pilot size operations and for large scale production, a combination high shear pulper for initial slurrying followed by treatment in a high shear deflaker, column 4, line 41-53. Screening of the pulp after the refiberization step is preferred to separate the individual modified fibers from any residual fiber bundles, column 5, line 3-10.

The Shaw reference teaches reslurrying the dried crosslinked fibers in water and then separation by high shear mechanical equipment and a deflaker to separate the individual fibers. A skilled artisan would recognize that neither high shear mechanical mixing nor passing the slurry through a deflaker would cause refining of the cellulosic fibers. Furthermore, the reference teaches the addition of a surface active agent as part of the chemical treatment to assist in the production of individual modified fibers with a minimum expenditure of energy during the refiberizing step. Since the reference does not teach refining the crosslinked fibers and Claims 9 and 10 are dependent on Claim 1, the reference does not anticipate the invention. Withdrawal of the rejection is respectfully requested.

The Rejection Of Claims 2-8 And 11-19 Under 35 U.S.C. § 103 (a)

Claims 2-8 and 11-19 are rejected under U.S.C.§ 103 (c) as being unpatentable over Shaw et al.

As noted above, the Shaw reference teaches the preparation of refiberized fibers (i.e. individual fibers) rather than refined fibers. These refiberized fibers can be used to prepare sheets either alone or in combination with normal, untreated cellulosic papermaking fibers. There is no motivation in the reference to refine the fibers either by themselves or as a mixture since the reference teaches refining crosslinked fibers in a conventional papermaking process would cause destruction of the fibers, column 2, line 43. The Examiner further acknowledges that the reference is silent with regard to the use of refining of a mixture of fibers including crosslink fibers or the use of a twin wire to make the web. The Shaw reference actually teaches away from refining the crosslink fiber as evidenced by the use of a high shear mixer and the use of a surface active agent to assist in the production of individual modified fibers with a minimum expenditure of energy, column 4, line 43 and column 3, line 51. Additionally, the reference teaches refining crosslinked fibers in a conventional papermaking process would cause destruction of the fibers. Since there is no motivation or suggestion in the reference itself and the reference does not describe all the elements of the claimed invention, a decision to withdraw the rejection of Claims 2-8 and 11-19 is respectfully requested.

The Examiner states "As to the use of a twin wire former of claims 16 and dependent claims, 17-19, twin wire formers as disclosed by the applicants is a very well known method of making paper by the wet-laying process." Applicants' agent would like to point out to the Examiner the only reference to a twin wire paper machine is in dependent Claim 9 of the present application.

Conclusion

In view of the foregoing amendments and foregoing remarks, applicants believe Claims 1-19 are in a condition of allowance. If any issues remain that may be expeditiously addressed in a telephone interview, the Examiner is encouraged to telephone the applicants' agent at 253-924-2439.

Respectfully submitted,
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